

**Sensor Model: 40E12A4**  
**Mechanical Load Rating: 50L200**

**I. Overload Capabilities:**

All overload values are for no damage, no re-calibration required.

- Single Axis Loading:

| Axis  | Max. Safe Load<br>(lb, in-lb) |
|-------|-------------------------------|
| $F_x$ | 330 lb                        |
| $F_y$ | 330 lb                        |
| $F_z$ | 1200 lb                       |
| $M_x$ | 1000 in-lb                    |
| $M_y$ | 1000 in-lb                    |
| $M_z$ | 840 in-lb                     |

- Combined Loading:

Both equations must be satisfied at all times.

$$F_x/330 + F_y/480 + F_z/1200 + M_x/1000 + M_z/840 \leq 1$$

$$F_x/480 + F_y/330 + F_z/1200 + M_y/1000 + M_z/840 \leq 1$$

**II. Approximate Stiffnesses:**

| Axis      | Stiffness       |
|-----------|-----------------|
| $F_{x,y}$ | 50.7e3 lb/in    |
| $F_z$     | 550e3 lb/in     |
| $M_{x,y}$ | 755e3 in-lb/rad |
| $M_z$     | 215e3 in-lb/rad |

**III. Notes:**

- When subjected to the above static loads, this sensor will not be damaged. However due to possible limitations on the ability of the mounting bolts to maintain frictional lock-up between the sensor and the surfaces to which it is mounted, sensor readings may exhibit a temporary shift in zero point and/or an increase in hysteresis.
- In determining safe dynamic or shock loads the total energy imparted into the sensor must be considered. Traveling stress waves may potentially combine to produce a maximum stress above the static maximum.